

CLAIMS

What is claimed is:

1. A chimeric Edg receptor comprising:
 - a) an extracellular domain of a first Edg receptor;
 - b) a transmembrane domain of the first Edg receptor, wherein the transmembrane domain is operably linked to the extracellular domain; and
 - c) a chimeric intracellular domain comprising an intracellular strand of a second Edg receptor, wherein the chimeric intracellular domain is operably linked to the transmembrane domain.
2. The chimeric Edg receptor of Claim 1 wherein the chimeric intracellular domain further comprises two strands of the first Edg receptor.
3. The chimeric Edg receptor of Claim 1 wherein the chimeric intracellular domain further comprises three strands of the first Edg receptor.
4. The chimeric Edg receptor of Claim 1 wherein the chimeric intracellular domain comprises two strands of the second Edg receptor.
5. The chimeric Edg receptor of Claim 1 wherein the chimeric intracellular domain comprises three strands of the second Edg receptor.
6. The chimeric Edg receptor of Claim 1 wherein the chimeric intracellular domain comprises four strands of the second Edg receptor.
7. The chimeric Edg receptor of Claim 1 wherein the chimeric intracellular domain comprises first intracellular loop or second intracellular loop of the second Edg receptor.

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8. The chimeric Edg receptor of Claim 1 wherein the chimeric intracellular domain comprises first intracellular loop and second intracellular loop of the second Edg receptor.

5 9. The chimeric Edg receptor of Claim 1, wherein the chimeric G protein coupled receptor couples with Gaq.

10. The chimeric Edg receptor of Claim 1 wherein the second Edg receptor couples with Gaq.

11. The chimeric Edg receptor of Claim 1 wherein the first Edg receptor is selected from the group consisting of Edg 1, Edg 3, Edg 5, Edg 6 and Edg 8.

12. The chimeric Edg receptor of Claim 1 wherein the second Edg receptor is selected from the group consisting of Edg 2, Edg 4 and Edg 7.

13. A chimeric Edg receptor selected from the group consisting of Edg1/3(ct), Edg 1/3(i3ct), Edg 1/3(i2i3ct), Edg5/3(i3ct) and Edg8/4(ct).

14. A nucleic acid encoding the chimeric Edg receptor of Claim 1 or 13.

15. A cell comprising the chimeric Edg receptor of Claim 1 or 13.

16. A cell comprising the nucleic acid of Claim 14.

25 17. A method of screening for compounds that bind an Edg receptor comprising:

30 a) contacting the chimeric Edg receptor of Claim 1, 11, 12 or 13 with a compound; and

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b) detecting binding of the compound to the chimeric Edg receptor thereby identifying a compound that binds the first Edg receptor.

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18. A method of screening for compounds that modulate the activity of an Edg receptor comprising:

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a) contacting the chimeric Edg receptor of Claim 1, 11, 12 or 13 with a compound; and

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b) detecting modulation of the activity of the chimeric Edg receptor relative to the activity of the chimeric Edg receptor in the absence of the compound thereby identifying a compound that modulates the activity of the chimeric Edg receptor.

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19. The method of Claim 18 wherein the activity of the chimeric Edg receptor is increased.

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20. The method of Claim 18 wherein the activity of the chimeric Edg receptor is decreased.

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21. The method of Claim 18 wherein the activity of the chimeric G protein coupled receptor is detected by a calcium mobilization assay.